THE DENTAL PRACTITIONER

A monthly journal for the Practitioner and his Staff

VOL. II, NO. 12 AUGUST, 1952

Incorporating the Official Supplement of
The Dental Laboratories Section of the Surgical Instrument Manufacturers' Association

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THE DENTAL PRACTITIONER

A Monthly Journal for the Practitioner and his Staff

(Incorporating the Proceedings of the British Society of Periodontology and the Official Supplement of the S.I.M.A.—Dental Laboratories Section)

Editor: JOHN E. SEEAR, L.D.S. R.C.S.

Associate Editors:

N. LIVINGSTONE WARD, L.D.S., D.D.S.

H. MANDIWALL, M.B., B.S., L.D.S. DONALD F. SOUL, F.D.S. R.C.S.

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Manuscript should preferably be typewritten with double spacing and wide margins, and the author should keep a copy. Articles and their illustrations become the property of *The Dental Practitioner*, unless authors reserve the right before publication.

Illustrations should be clearly numbered and legends should be written on a separate sheet of paper and not put on the backs of the originals. Each figure should be referred to in the text. Prints are preferred to X-ray negatives and should be on glossy paper. Lettering which is to appear on illustrations is best shown on an overlay or rough sketch. It should not be put on the original.

Tables should be typed on separate pages and each should have a caption which will explain the data without reference to the text.

References to dental literature should be recorded in the text, with the name of the author and the year of publication in parentheses. In the bibliography they should be arranged in alphabetical order in the following form, the abbreviations of periodicals being those adopted in the *World List of Scientific Periodicals*, e.g. :—

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LEWIS, R. W. B. (1947), *The Jaws and Teeth*, 2nd ed., 471. London: Science Publishing Co.

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THE
DENTAL PRACTITIONER
A Monthly Journal for the Practitioner and his Staff

Vol. II, No. 12 August, 1952

EDITORIAL

PARTIAL DENTURES

It is an unexplained fact that the design of partial dentures in this country does not come up to the high standard of other aspects of dentistry. Oral surgery in Britain is as good as anywhere in the world—better than in most places—but it is only the minority of partial dentures that serve their proper function. It is not just a question of economics, the excuse usually given for a low standard of dentistry, but of actual knowledge of design. Far too many partial dentures lead on to full dentures. Much more is known in these days of tooth movement and the forces brought to bear on the teeth, and prosthetic appliances must be adjusted and balanced to these forces otherwise they will produce more harm than good. To help in this problem we are presenting, commencing next month, an article on "The Design of Partial Dentures", accompanied by a fine series of illustrations. This has been written by Lt.-Col. Schmidt, of the U.S.A., and is recognized as an authoritative text on the subject. With the advent of the newer chromium-cobalt-molybdenum alloys for casting it is to be hoped that cast partial dentures will replace some of the lumps of acrylic that have served as dentures. To use this material, however, design is of supreme importance, and we feel sure that our readers will appreciate this contribution, which we trust will aid them in their treatment.

The staff of Leeds University Dental School have kindly written the articles for this issue. We wish to thank the Dean, Professor Talmage Read, and his staff for their excellent contributions.

To those interested in dental films, we wish to bring to your notice the announcement on page 381.

COURSES FOR DENTAL TECHNICIANS

Courses for Dental Technicians in Crown and Bridge work, Full and Partial Dentures, and Orthodontics, will be held commencing in October, 1952. Each course will consist of twelve sessions, which will be held fortnightly. The courses will be of an advanced nature and are primarily intended for adult technicians.

Further particulars and application forms, which must be returned on or before Sept. 15, 1952, may be obtained from the Honorary Secretary, Dental Technicians Postgraduate Committee, Eastman Dental Hospital, Gray's Inn Road, London, W.C.1.

THE TREATMENT OF BILATERAL ANKYLOSIS OF THE JAWS

By **PROFESSOR T. TALMAGE READ,** F.R.F.P.S., F.D.S. R.C.S., L.R.C.P.

University of Leeds

THE patient was a young woman aged 26 years. She had had complete bilateral bony ankylosis of the jaws for over twenty years following a motor accident when a child (*Fig.* 1).

She had recently attended her dental surgeon to have a painful tooth removed, obviously a difficult procedure in view of her inability to open her mouth.

He referred the patient to me to find out if anything could be done and it is owing to his interest in directing her that treatment was instituted. Not only was she unable to open her mouth but there was marked facial deformity due to absence of a chin (*Fig.* 2).

The deformity and ankylosis were clearly demonstrated in a radiograph (*Fig.* 3) which illustrated the short vertical rami and the lack of forward development of the mandible, with recession of the chin and the procumbent incisors.

Fig. 1.—Before treatment. Note patient's inability to open mouth and the disfigurement.

Fig. 2.—Profile before treatment. Disfigurement due to absence of chin.

TREATMENT

The treatment was carried out in stages.

First Stage.—At the first operation I carried out a bilateral arthroplasty, excising the ankylosed temporomandibular joints. The incisions were made in front of but close to the ears. At this operation I also inserted two steel pins into the symphysis to enable the jaw, when freed at operation, to be controlled and manipulated. After operation the pins were connected by an elastic band to a vertical rod attached above to a plaster head-cap (*Fig.* 4).

This elastic band was intended, in the immediate period following operation, to guide and direct the opening and closing of the mouth and also to prevent the jaw from dropping back. Two wooden wedges placed temporarily on each side between the molar teeth also prevented elevation of the rami with gagging of the bite behind and an "open

bite" anteriorly. The operation was successful and the patient was able for the first time in twenty years to open and close the mouth and to masticate normally (*Fig.* 5).

After several months the patient was re-admitted to hospital for the second stage of her treatment.

Second Stage.—At this second operation I made an incision in the labial sulcus of the lower jaw and prepared a deep pocket extending beyond the symphysis.

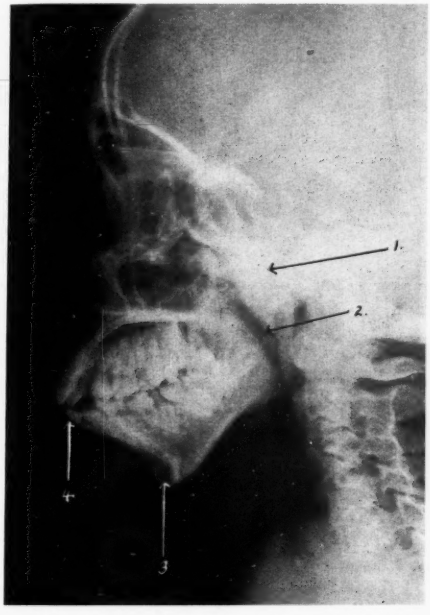

Fig. 3.—Radiographic appearances showing: (1) Ankylosis; (2) Short ramus; (3) Recession of chin; (4) Procumbent incisors.

The pocket was then skin-grafted as follows: Two moulds of the pocket were taken in dental composition. A Thiersch skin-graft was cut from the inner side of the patient's thigh. The skin-graft, raw surface outwards, was wrapped around one of the composition moulds which was then inserted into the pocket. Upper and lower cast-cap splints had previously been prepared to impressions of the mouth and fixed in position before operation. The lower splint had a tray attachment which supported the mould carrying the skin-graft and prevented movement,

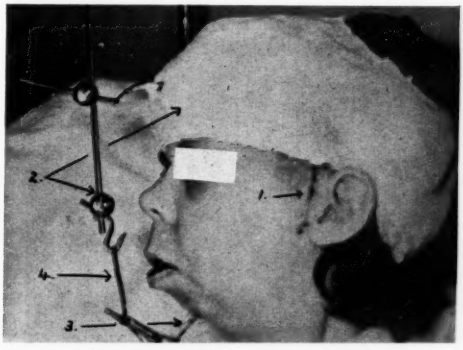

Fig. 4.—Left profile view 7 days after operation showing: (1) Incision in front of ear; (2) Plaster head-cap with rod and hook attachment; (3) Pins in symphysis with clamp; (4) Elastic band connexion.

Fig. 5.—Several months after operation for ankylosis showing free opening of mouth.

Immobilization was also assisted temporarily by wiring the upper and lower splints together and also by placing a strip of adhesive tape across the lower lip below the red margin to hold the lip in contact with the mould. The second mould was used to prepare an acrylic substitute. The skin-graft mould was removed

in ten days for irrigation and cleansing of the new skin-lined sulcus and the acrylic substitute then inserted in its place. Irrigation was then carried out regularly every other day. A successful skin-lined pocket was obtained and later the intra-oral splints were removed, the lower incisors extracted, and a partial lower denture inserted holding in place an acrylic prosthesis which maintained the skin-lined sulcus and prevented contraction (*Fig.* 6).

Fig. 6.—After creation of buccal sulcus and skin-grafting. Partial denture with acrylic prosthesis to maintain sulcus.

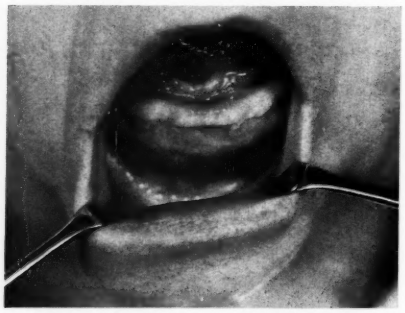

Fig. 7.—Skin-lined sulcus and lower ridge after alveolectomy and extraction of teeth.

The patient was then discharged from hospital for six months.

Final Stage.—The patient's teeth were very carious owing to stagnation of food during the long period of lack of function due to the ankylosis.

They had been retained so far as they were valuable attachments for intra-oral splints. Now they could be removed with advantage. The patient was re-admitted to hospital for this to be done and at the same time to have an alveolectomy in view of the prominence of the upper alveolar bone and the irregular contour of the bone around the remaining lower teeth.

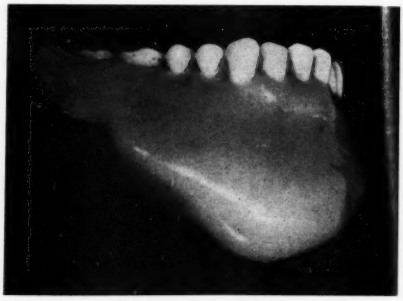

Fig. 8.—Lower denture with chin extension.

The alveolectomy not only improved æsthetically the final prosthetic restoration but facilitated the immediate insertion of dentures (*Fig.* 7). The lower denture in acrylic carried an extension fitting the sulcus

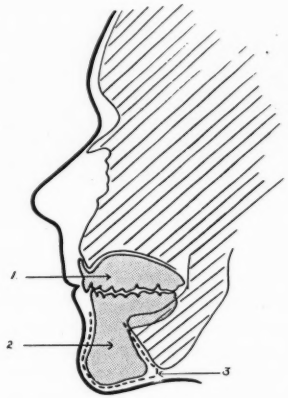

Fig. 9.—Diagram showing sulcus created by operation and prosthesis in position. 1, Upper denture; 2, Lower denture with chin extension; 3, The buccal sulcus lined by skin-graft.

prepared at the previous operation and building out a chin (*Figs.* 8, 9).

A remarkable improvement in the health, happiness, and appearance of the patient was achieved (*Figs.* 10, 11). The patient, who had previously been ill-nourished, was able to eat normally and put on weight. Psychologically she had suffered intensely owing to the facial deformity, but now obtained a new confidence and was able to enjoy life and society.

Fig. 10.—Appearance after treatment—compare with *Fig.* 1.

Fig. 11.—Profile after treatment—compare with *Fig.* 2.

SUMMARY

1. A condition of bilateral ankylosis with facial deformity in a young woman of 26 years is described.

2. The treatment in successive stages is illustrated: (*a*) Bilateral arthroplasty; (*b*) Formation of buccal sulcus and insertion of skin-graft; (*c*) Alveolectomy, complete removal of teeth, and a prosthetic restoration.

3. A successful functional and æsthetic result is demonstrated.

A METHOD FOR POST-GINGIVECTOMY PACK STABILIZATION

The stabilization of protective dressings after the excision of gingival tissue is at times difficult, whilst the æsthetic effect of the packs is often poor. A method of overcoming these two complications by the construction of a gum-coloured veneer splint in acrylic, to be worn during the post-operative healing period, is detailed.

The splint consists of nothing more than a separate lingual and vestibular flange with processes extending into the interdental areas. There is no connexion between the two segments, but in a series of 26 completed cases the author states that neither dislodgement nor discomfort has been noted and adjustment was not necessary in any case. Healing judged from the clinical standpoint was more satisfactory where the splint and dressing were removed after eight days, than when allowed to remain for fourteen days, although no mention is made of the respective jaws concerned in these observations.—McKenzie, J. S. (1951), *J. Periodont.*, **22**, 201.

THE SOLID OBTURATOR: A CLEFT PALATE APPLIANCE

By **C. WOODHEAD**, L.D.S.

Lecturer in Prosthetic Dentistry, University of Leeds

DESPITE financial compensations, traditional perhaps rather than real, prosthetic work is often looked upon as the Cinderella of the dental profession. There is, however, no more satisfying phase of dentistry open to the average keen practitioner than is offered in the construction of obturators—those appliances constructed to assist the unfortunate patient handicapped with some form of cleft plate.

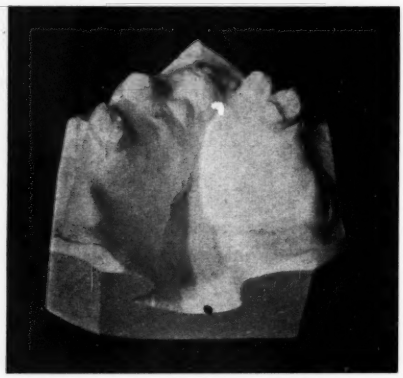

Fig. 1.—Original model. Showing extent of cleft and disposition of teeth.

Probably due to childhood experiences when speech was difficult and to a large extent incomprehensible, resulting in an inferiority complex, the patients themselves tend initially to be rather of the aggressively difficult type. This, however, is but a challenge to the ingenuity and persuasive powers of the operator for, at the successful conclusion of their treatment, they are loud in their praise and most grateful for the services which have been rendered.

Leaving aside the traumatic and acquired clefts, both of which are more rarely seen, the condition arises from one or more faults in development, together with subsequent malunion of embryonic processes. The cleft may involve soft tissues only or may include hard palate and may be associated with hare-lip. It is, however, the treatment rather than the embryology with which the operator is most concerned. The treatment of such patients falls broadly into three main classes; first, by actual surgery, with which we are not concerned; secondly, by construction of appliances; and thirdly, a combination of the two. Since surgical repair is confined mainly to the very young, by far the great majority of the cases treated fall into the second group, and it is with this group that we are primarily concerned.

Treatment, of course, varies widely with each individual case and considerable time should be spent on treatment planning, so that the most suitable form of appliance may be constructed. It may be pointed out that rough impressions and study models can be of considerable assistance at this stage (*Fig.* 1). During this phase of treatment planning should be mentioned the necessity of preserving, as far as possible, the natural dentition. Cleft-palate patients often have very badly misplaced teeth due to interference, either natural or surgical, with the tooth buds in the formative stages. Also, due possibly to a misguided and perhaps fatalistic attitude on the part of the parents at an earlier stage, the dental condition of a high percentage of these patients is very poor, gross caries and general neglect being very evident. Despite this, it cannot be too firmly emphasized that the retention of at least some part of the natural dentition is most important irrespective of the position of the teeth, in order that full use may be made of them to promote stability in the finished prosthesis. In certain cases, when the teeth are badly misplaced, it is possible to move them into a more favourable position

by orthodontic measures, which should be instituted before the prosthetic work is commenced. Never, unless the case is absolutely hopeless, should all the teeth be removed. It is most aggravating to receive a case for a cleft-palate appliance which some over-enthusiastic colleague has rendered edentulous.

Coming now to the actual prosthesis, one type of appliance which gives a large measure of success in cases of cleft involving both hard and soft palate is the solid obturator, and it is this type of appliance which will be dealt with in detail. Although this prosthesis is by no means universally applicable, in suitable cases an excellent result both æsthetically and functionally may be obtained. Contrary to popular belief, these appliances are not beyond the scope of the operator who will take great care in the chairside work and who either completes the more mechanical procedures himself with equal care or avails himself of the services of a competent and painstaking technician.

The primary need, as in all prosthetic procedures, is accurate impressions and the only way of ensuring this is by the use of special trays. In the first place, an impression is taken using an ordinary well-fitting stock tray, the material of choice for these preliminary impressions being composition. Since posterior damming of the tray is impossible owing to the cleft, too great an excess of composition should be avoided, and it should be remembered that well-defined impressions of the floor of the nose are neither needed nor desirable.

Although most patients suffering from cleft palate have an amazing tolerance of foreign bodies in contact with the mucosa of the soft palate, it is usually advisable either to paint or spray the mucous membrane with a 2 per cent solution of nupercaine or alternatively use an atomizer containing benzocaine to diminish sensitivity a few minutes before impression procedures are initiated.

From the impressions so obtained models are cast and these may be used as the study models mentioned earlier, as well as being used for the construction of special trays. Although hard-bake or shellac may be used, by far the most suitable special tray for this type of work, by virtue of its strength and adaptability, is the cast metal tray using a tin/lead alloy such as solder, allowing one thickness of wax between the tray and the model. The next stage is the taking of really accurate working models using the special tray. The material to be used for these final impressions is any one of the hydrocolloids or alginates. Normal impression plasters should be avoided since difficulties could arise in removing any fragments which become detached during impression taking. Nor should composition be used as this would tend to apply too much pressure laterally on the cleft and thus produce inaccuracies in the impressions. Following normal procedures, the metal tray should be dotted with sticky wax prior to loading so that adherence between tray and impression material is ensured.

The impressions are taken in the usual manner, care being taken to see that the material flows well up into the sulcus both buccally and labially. A well-defined periphery may be obtained by pulling the cheeks and lip outward and then downward, first on the one side and then on the other. This will ensure that no air is trapped in the sulcus to produce bubbles, and also will indicate the presence and extent of muscle attachments.

After the setting period has elapsed, the impressions are removed, taking care that at no place does the material become separated from the tray. If approved the impressions should be cast immediately, producing, for preference, a stone model.

Bite blocks are constructed in the usual way, the base-plate being taken no further posteriorly than for a normal denture. At the next visit of the patient, normal occlusion is established and at this stage must be decided which of the natural teeth should be banded, together with any special requirements such as teeth which should be completely covered by acrylic or teeth which should have provision made so that they may pass through holes in the finished denture. Advantage should be taken of any aid to stability and the area covered should be as large as possible.

Also at this stage it is desirable to build out the upper block to restore lost contour, for with all these cases, especially when associated with a repaired hair-lip, there is a tendency for contraction of scar tissue to produce too flat a result and this may be rectified by a judicious

Fig. 2.—Completed denture (frontal aspect). Wire loop obscured.

building out in the canine regions. Care must be exercised, however, to ensure that the building out is not so great as to produce instability by the pressure of a tight upper lip.

Setting up follows normal routine, although it may be found advantageous to use a slightly darker shade of tooth than normal. If there are misplaced teeth lying palatally, it may be preferable to place artificial teeth on the ridge bucally so that the faulty alinement may be

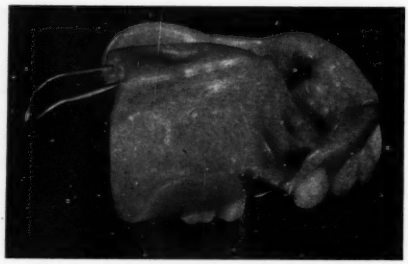

Fig. 3.—Completed denture with german silver loop attached.

concealed. It is, of course, of paramount importance to see that the teeth are set up directly over the ridge so that no dislodging forces are introduced during mastication.

At the next appointment the "try-in" is completed. The occlusion is checked, and the periphery examined to make sure that while the denture is as deep as possible there is no possibility of interference by muscle attachments. At the same time it should be noted if there is any alteration needed in the setting of the teeth, particularly in the anterior region, to produce any improvement from the æsthetic angle, and the patient should be invited to give an opinion of the appearance as shown in a mirror. When all requirements are satisfied a loop of german silver wire should be attached to the posterior border of the upper try-in so that it lies comfortably in

Fig. 4.—Completed denture with wax obturator moulded to shape (lingual aspect).

the cleft without impinging on any soft tissues. The dentures are then flasked and processed in the normal way in acrylic resin. (*Figs.* 2, 3.)

The first part of the next visit is devoted to fitting the completed dentures, and this may involve considerable patience to make absolutely certain that the dentures are properly seated. At this stage some authorities maintained that the patient be dismissed and allowed to wear the dentures in this condition for at least a week in order to become accustomed to the art or science of wearing dentures. It would seem to be preferable, though, that the obturator be completed and the difficulties of wearing new dentures and obturator be overcome together.

Presuming that the obturator is to be completed at this stage, wax is built on to the

wire loop to approximate to the cleft of the soft palate, and continued backwards to touch the posterior pharyngeal wall. This wax is now very well softened by flaming, the denture is inserted and the patient instructed to swallow, as often as possible, while the wax is still soft. It should be realized that this entails a real effort on the part of the patient. The denture is withdrawn and once again the wax is softened and the whole process is repeated. It may be necessary to build up some portions where there is a deficiency and conversely to remove wax where there is excess. After repeating this process three or four times it will be found that the wax has become moulded to the required shape by muscular action and that the patient experiences no real discomfort during swallowing. it is important at this point that the patient should differentiate between discomfort which implies pain due to undesirable pressure and mere consciousness of a foreign body. The appliance is once more withdrawn, all the wax surfaces are examined for any superfluities and then carefully flamed and re-inserted as a check on the previous work. Removal

Fig. 5.—Completed denture with wax obturator (lateral aspect).

completes the chairside work at this visit. (*Figs.* 4, 5.)

It now becomes necessary to make the obturator as light as possible in the posterior region while still preserving all the essential surfaces. This may be accomplished by the scraping away of wax from either palatal or lingual aspect of the obturator and entails very careful work so as not to disturb the fitting surfaces. Naturally if the wax is removed from the palatal aspect, what was a fitting surface becomes converted into two broad fitting edges. The completed case should now resemble posteriorly a box without a lid. If any damage occurs during these procedures it is far wiser and in the end less wasteful of time to remove all the wax and start again with the wax on the wire loop.

Fig. 6.—Completed denture and obturator.

The whole case is now flasked and processed in the normal way, making sure that the flask used is of adequate size. After deflasking, the appliance is repolished. All surfaces of the obturator are polished, but it should be noted that it is inadvisable to sandpaper very heavily, as otherwise wanted configurations will be removed. (*Fig.* 6.)

The appliance is now ready for its final fitting and any adjustments to be made, remembering that during the act of swallowing the posterior pharyngeal wall should just be in contact with the posterior edges of the obturator. Guidance may be obtained by painting the posterior pharyngeal wall with methyl violet when the resulting staining of the obturator will indicate which parts are subject to undue pressure.

When all requirements are satisfied, the patient is instructed in the general hygiene required, particularly if the denture overlays natural teeth, and should be advised of the initial difficulties which may be experienced, with particular reference to speech and eating. These difficulties may be expected to persist for a few days and the patient should be seen again at the expiry of the first week when, once again, minor adjustments may be necessary. When the obturator is finally

stabilized and comfortable it may be suggested that the patient be seen by a speech therapist, who will produce a marked improvement in enunciation.

In conclusion, it should be repeated that these appliances present no unsurmountable difficulties in their construction, no special apparatus is needed to produce them, and the care taken during their fabrication will be amply repaid by the results obtained, enabling a patient handicapped by an oral deformity to speak much more clearly and to benefit by a marked improvement during mastication.

THE SILICO-PHOSPHATE CEMENT AS A PERMANENT FILLING MATERIAL

By **J. H. ROSS**, B.Ch.D., L.D.S.

University of Leeds

In recent years examples of silico-phosphate cement have been introduced to the profession for use as a plastic filling material for permanent restorations in anterior and posterior teeth. They have also been used as cementing media for inlays, and for casting individual tooth models in inlay work. Before the value of a silico-phosphate cement can properly be estimated, its properties should be known and compared with the longer established filling materials.

As its name implies, the silico-phosphate cement is a hybrid, a combination of the zinc phosphate and silicate cements. The powder is essentially a silicate powder with the admixture of zinc oxide and possibly magnesium oxide, the two latter being the essential components of a zinc phosphate cement powder. The liquid, like that of the two simpler cements, is an aqueous solution of phosphoric acid and zinc and aluminium phosphates. The silicates set by a process of gelation, the phosphates by crystallization, so that in the setting of the silico-phosphate two processes occur, a crystallization within a gelation.

PREPARATION OF SPECIMENS

Before carrying out any test to determine any particular physical property, it is necessary to prepare standard specimens, i.e., specimens all having the same proportion of powder and liquid, all prepared under the same conditions and with a standardized mixing technique which will include the manufacturer's directions. Preparations of the specimens should be carried out at a temperature between 65° F. and 75° F., the proportion of powder and liquid being determined by a consistency test. The standard consistency selected will be the average consistency produced by the dental surgeon. One specification, the American Dental Association Specification No. 9 for Dental Silicate Cements (Paffenbarger, Schoonover, and Souder, 1938) states that the standard consistency is that which gives a slumped mass of an average diameter of 25 mm. ten minutes after commencing the mix when 0·5 c.c. of the cement is subjected to a pressure of 2500 g. Some manufacturers of silico-phosphates state that the success of their product depends on a very thick mix, so that the consistency selected for this type of cement may be thicker than for a silicate cement, i.e., one which gives a slumped mass of an average diameter of 20 mm. under the same test conditions as for the silicate. To determine the standard consistency for any individual cement, trial amounts of the powder are mixed with 0·5 c.c. of the liquid. Of the resultant and still-plastic cement, 0·5 c.c. are packed into a glass measuring tube (*Fig.* 1 A) and then delivered on to a glass slab. Two minutes after commencing the mix a second, smaller glass slab is placed on top of the cement and a further weight placed on the upper slab to make the total weight to which

the cement is subjected 2500 g. (*Fig.* 1B). Due to the pressure on the cement this latter will be compressed into a disk, the diameter of which will depend on the consistency: the thinner the mix (i.e., the greater proportion of liquid to powder) so the more will the cement be compressed, and vice versa. The diameter of the slumped mass will be measured ten minutes after commencing the mix. degree of solubility can be taken as the measure of disintegration. To determine this amount, a small volume (0·5 c.c.) of the newly mixed cement is placed between two glass slabs and pressure applied until the specimen is approximately 20 mm. in diameter. This specimen is then kept in an atmosphere of a relative humidity of 1 for one hour and then quickly transferred to a weighing bottle of

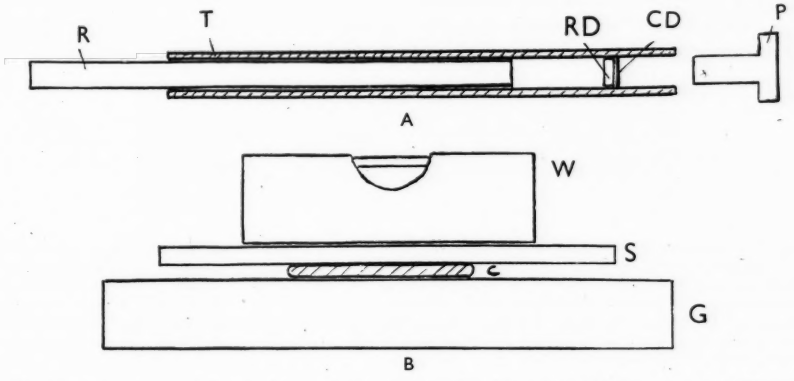

Fig. 1.—Apparatus used for consistency tests on silico-phosphate and silicate cements. A, Measuring apparatus: T, Glass tube; R, Glass rod; P, Brass plug; RD, Rubber disk; CD, Cellophane disk. B, Compression apparatus: G, Glass slab; S, Small glass plate; W, Weight (W + S = 2500 g.); C, Cement disk compressed by W + S.

A succession of trial mixes will allow the proportions of powder and liquid giving the standard consistency to be determined.

TESTS

The main properties of a dental cement which it would be desirable to investigate would include (*a*) its degree of solubility and disintegration, (*b*) its crushing strength, (*c*) its degree of acidity, and (*d*) its liability to stain and degree of porosity. These tests, apart from the determination of the crushing strength, can be performed by the dentist in his surgery.

Solubility.—The degree of solubility and disintegration is the measure of the erosion plus the extraction of soluble material by the saliva, the amount of the latter having a bearing on the former. The effects of erosion will vary according to the position of the filling and the patients' habits, so that the known weight after which the combined weight of the bottle and specimen is accurately determined; this gives the weight of the specimen. Immediately after weighing, the specimen is submerged with 50 c.c. of distilled water and the bottle stoppered and stored at a temperature of 97° F. After one week, the specimen is removed from the bottle, which is then dried to a constant weight. The increase in weight of the dried bottle will represent the amount of material extracted from the specimen, so that the percentage solubility can be calculated. A second test will check the accuracy of the first. The American Dental Association specification for a silicate cement states that the maximum degree of solubility permitted is 2 per cent. Such a test will show that, while the solubility of a silico-phosphate comes within this scale and may be slightly less than that of a silicate, it is still soluble, and so, strictly speaking, both these cements should be

classed as semi-permanent filling materials. One investigation showed that the average life of a modern silicate filling is four and a half years (Paffenbarger, 1940).

Crushing Strength.—An indication of the strength of any filling is given by its crushing strength, though its degree of brittleness, which is well marked in dental cements, must also be taken into account, for this latter property will have a bearing on the edge strength. To determine the crushing strength of the cement, cylindrical specimens, 12 or 14 mm. high and 6 or 7 mm. in diameter are prepared and stored in distilled water. After one week, their flat ends are planed smooth and parallel to each other and at right angles to the vertical axis of the cylinder. The specimens are then subjected to pressure in a crushing machine, the pressure being increased very gradually. The pressure applied at the point at which the specimen breaks up is recorded and the crushing strength in pounds per square inch calculated. An average from at least three recordings, which do not vary more than 10 per cent, is used in the calculation. Claims are made for the silico-phosphates of a crushing strength up to 26,000 lb. per sq. in., a higher figure than for the average silicate, but this figure is only half that of some of the modern amalgams (50,000 lb. per sq. in.).

Degree of Acidity.—An estimation of the degree of acidity of the silico-phosphate cement can be made by crushing 0·5 c.c. of the cement at varying intervals after mixing, the resultant powder being mixed with 25 c.c. of distilled water, and obtaining the *p*H value of the solution. This will not give the accurate *p*H value of the setting cement, but it will serve as a comparison with the very acidic and consequently irritant silicate and the milder oxyphosphate. A very rough estimation of the acidity of the setting cement can be obtained by observing the colour produced when placing a drop of a wide-range indicator on a portion of mixed cement on a glass slab. It has been determined (Harvey, Brocq, and Rakowski, 1944) that the *p*H value of cements at the time of insertion into the cavity is very low, *p*H 1·4–1·6 for the silicates, *p*H 1·5–1·75 for the zinc phosphates (*p*H value of a neutral solution is 7), and that it is this high concentration of free acid in the initial stages of setting that is responsible for the degeneration of pulpal tissue and, in the case of silicate cements, occasional death of the pulp (Manley, 1943). This low *p*H value increases with time as the cement continues to set and as the free acid is neutralized by the alkaline powder. It never attains complete neutrality, however, though it does become sufficiently benign to be tolerated by the tooth tissues. As might be expected, the degree of acidity of the silico-phosphate cement lies between those of the silicate and zinc phosphate cements; thus, though the silico-phosphate is less irritant to the vital tooth tissues than the silicate, it is more so than a phosphate.

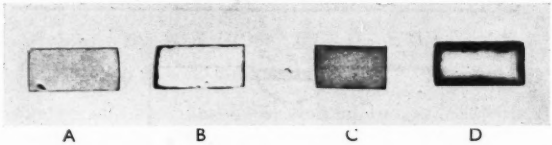

Fig. 2.—Photograph (life-size) of silico-phosphate and silicate specimens immersed in a solution of dye. Cylindrical specimens were used and after immersion were sectioned parallel to their vertical axes to show the degree of penetration of the dye (shown by the black area). The unaffected silico-phosphate appears grey in the section, the silicate white. A, Silico-phosphate stored in dye for 1 day—negligible penetration. B, Silicate stored in dye for 1 day—slight penetration (0·25 mm.). C, Silico-phosphate stored in dye for 1 month—moderate penetration (0·5 mm.). D, Silicate stored in dye for 1 month—marked penetration (1·5 mm.).

Porosity.—The degree of porosity of a cement can be determined by preparing small cylinders by packing the plastic cement into glass moulds, removing them when set, immersing them in a weak solution of a suitable dye, and storing at 97° F. After some time,

for example a month, the test specimen is removed and sectioned, and the degree of penetration of the dye observed. The dye will penetrate three or four times farther through a silicate cement than through a silico-phosphate (*Fig.* 2). Surface staining occurs with both cements in a very short time.

The properties of one of the silico-phosphate cements as determined by the above methods are seen in relation to those of a silicate cement and an amalgam in *Table I*. It is noted that the properties of a silico-phosphate cement can be altered by using varying techniques: for example, the degree of solubility and porosity are increased and the crushing strength decreased if too great a proportion of liquid to powder is used in the mix. The same effect can be obtained if the time of mix is increased. A shorter mixing time will give a quicker setting time, as will a higher slab temperature. If the setting cement is allowed to come into contact with water or, in the mouth, saliva, it will be diluted and its properties will suffer accordingly.

Table I.—Relative Properties of a Silico-phosphate and a Silicate Cement and an Amalgam

	Silico-phosphate	Silicate	Amalgam
Solubility (percentage by weight):—Specimen 1 week old	0·8 per cent	1·4 per cent	Insoluble
Crushing strength:—Specimen 1 week old	22,500 lb./sq. in.	15,200 lb./sq. in.	42,700 lb./sq. in.
Degree of acidity (*p*H) at varying times after commencing the mix:—			
3 min.	*p*H 4·5	*p*H 3·9	
15 min.	*p*H 4·8	*p*H 4·2	
1 hr.	*p*H 5·2	*p*H 5·1	
6 hr.	*p*H 5·3	*p*H 5·3	
24 hr.	*p*H 5·6	*p*H 5·5	

CLINICAL OBSERVATIONS

No true estimation of the value of any filling material can be obtained without observing its behaviour in the mouth. It is seen that silico-phosphate cements behave in the mouth in the same manner as do the silicates, though their shortcomings are not quite so well marked. *Table II* summarizes an inspection carried out by the writer on 111 18-month-old silico-phosphate cement fillings inserted by a number of operators in varying types of cavities (Black's classification).

As this table indicates, the cement is most likely to disintegrate when positioned near the gingival margin, this disadvantage being most noticeable in purely gingival cavities. This may be accounted for by the greater difficulty in preventing gingival oozing from the gum margin in this area at the time of insertion, with consequent dilution of the cement. The cement fillings in purely occlusal cavities have shown the effects of disintegration least, despite the fact that they are subjected to the wearing action of the bite.

Table II.—An Inspection, 18 Months after Insertion of 111 Silico-phosphate Fillings, inserted by a Number of Operators

	Class I	Class II	Class III, IV	Class V	Total
Total No. of fillings	35	19	30	27	111
Fillings with no loss of integrity	28	6	8	5	47
Fillings showing slight wear or leakage	6	8	12	15	41
Fillings showing marked wear	—	2	5	5	12
Fillings lost	1	3	5	2	11

No differentiation is shown in this table between the position of the filled tooth, or the size of the cavity.

It can be said, therefore, that the silico-phosphate, like the silicate, has its disadvantages. Silicate cement owes its popularity mainly to its æsthetic qualities, which are superior to those of the silico-phosphate. The only other filling, apart from the new self-curing acrylics, which will faithfully reproduce tooth tissue is the porcelain inlay, which involves much time and expensive equipment. On the other hand, amalgam possesses properties superior to those of the silico-phosphate, except that of its æsthetic value. Thus, it is difficult to define the exact use of the silico-phosphate cement. It could be used in place of a silicate where the loss of translucency would be no objection, e.g., in proximal cavities in anterior teeth not visible from the labial aspect. Under certain circumstances it might be used in place of amalgam where this latter filling is objected to because of its colour, e.g., in mesial cavities in premolar teeth. It might be used for filling cavities in deciduous teeth, particularly where a good æsthetic result is to be desired. Care must be taken to protect the pulp in these, as in all other cases, by the insertion of a more sedative underlining such as zinc oxide and eugenol. The cement is occasionally useful in temporarily conserving teeth with large cavities where the retention is insufficient for an amalgam.

It should be remembered, however, that the success of the material will always depend on the way it is used; the mixing technique and the mode of insertion should be standardized and carried out faithfully.

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CARE OF THE MOUTH

By **K. McALLISTER**, L.D.S. (L'pool)

THE final aim in treatment for gingival disease is to leave the line of attachment of gum to tooth accessible all round for daily cleaning by the patient. Whatever the method used to attain this, gingivitis recurs if preparatory treatment is incomplete and pockets remain; if treatment is not supplemented by detailed instruction in home care; and if the patient does not carry out such instructions as taught. The last is the weak link in the chain, because at this point direct control of gingival health passes to the patient. Results depend on the force with which each individual's responsibility is conveyed to him, and on his ability to carry out instructions.

There are the comparative few who will carry out any method of oral hygiene exactly as taught, with benefit. Some will make no genuine attempt at all. In between is by far the largest group, composed of people willing enough in the first place, but who tend to flag in varying degrees between routine appointments for mouth examination. Persistent effective co-operation from the average private-practice patient is more likely if the method of mouth-brushing taught involves as little change as possible from the accustomed one. A complete change of style can be very unsettling, as people who have tried it in games know. There is a constant tendency to compromise with previous long-standing muscular habits.

A method of mouth-brushing taught (and much advertised) in this country is the rolling technique whereby the sides of fairly resilient bristles are applied above the gum margins by turning the head of the brush, and then swept from gum to tooth by twisting the wrist (*Fig.* 1). The bristles have to be firm enough to spring into crevices and spaces as the head is turned in order to come into contact with food particles and shift them. If soft non-irritating bristles are used in this way they simply lie flat along gum and tooth

and skip the gingival crevices; or they may even have an impacting effect (*Fig.* 2).

The brush is lifted clear at the end of each stroke, the brush head being turned during the return movement before contact is made again. Too frequently, after a while, the brush head is not rotated sufficiently on application to bring the sides of bristles into contact. The points are applied instead and this produces a stabbing effect (*Fig.* 3) which, even with moderately stiff bristles, may lead either to gum recession or, more important, avoidance of the gum margin altogether.

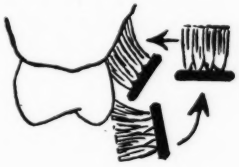


Fig. 1.

Fig. 2.

Fig. 3.

Another thing about the rolling method is that the bristles are only in contact one way; lifting them clear for the return movement means that it takes twice as long to get the same scouring effect as with a to-and-fro movement. It is like using an interdental stick in contact one way only.

Ninety-five per cent of people who use a brush at all use a scrubbing action with the wrist held stiff, either up and down, or across, or both. It is the easiest way for anyone starting to use a brush, especially children; and it seems to be making a needless complication to have to evolve a special way of applying potentially damaging bristles in order to avoid irritation. It is simpler to accept the almost universal method of use by supplying a brush suitably shaped and constituted to fit in with it; an extension of the movement to include gum margins is more easily acquired and more likely to be maintained.

Any soft-bristle brushes may be used (nylon, even in fine filaments, feels harsh), but they tend to lose their shape fairly rapidly. Brushes with worn centre filaments and splayed outer ones, as often presented for inspection, cannot be used with the best effect.

A suggested shape is the one illustrated in *Fig.* 4. Made of soft horsehair and used wet, a light scrubbing action allows the longer central bristles to fit into crevices with the minimum of irritation (*Fig.* 5). The shape is retained for months; and they are cheap enough to be kept in bulk and supplied at the time for instruction.

Fig. 4.

Fig. 5.

Although the preliminary instruction of patients in oral hygiene may be delegated, it remains one of the most tedious and at the same time one of the most essential features of preventive dentistry; anything which simplifies it and makes it more permanently effective lightens the task. This applies in private practice where the same patients can be seen at intervals over long periods. It must apply even more in the case of school, hospital, or Service patients where continuity of supervision is more difficult.

INSTITUTE OF BRITISH SURGICAL TECHNICIANS (INC.)

Dental Section

ANNOUNCEMENTS and reports of the activities of the Dental Section of the Institute of British Surgical Technicians have been published in this journal from time to time, and therefore a brief synopsis of the history, aims, and activities of this organization may be of interest to our readers.

The Institute was formed in 1934 with the object of providing a status and obtaining recognition for skilled surgical technicians, and, in order to achieve this, to establish a code of ethics and minimum educational standards.

Later it was found that the dental technician had many similar problems to those of the surgical instrument and appliance technicians, pointing to the need for a technical organization and to establish an appropriate status for qualified dental technicians. It was therefore felt that the facilities and organization already available in the Institute of British Surgical Technicians might well be utilized, and highly skilled and carefully selected dental technicians were first admitted to membership in 1939. These members formed a Dental Education Committee to frame a syllabus and to arrange examinations. A panel of examiners was appointed and the first examinations were held in 1940 to qualify dental technicians for the Institute's diploma of Dental Craftsman Associate. Later the City and Guilds and H.M. Service certificates for dental technology were also recognized as suitable qualifications for applicants for admission to the Institute.

Subsequently the Dental Section was recognized as a separate entity in the affairs of the Institute, subject only to the final authority of the Council, and steps were taken to increase the membership and extend the activities of the Section.

While adhering to the main objects of the parent Institute, the following have been formulated as the specific aims of the Dental Section:—

Without political bias solely to serve dental technology.

To further the knowledge and education of dental craftsmen and to raise the standard of dental technology in efficiency and usefulness.

To encourage the study of dental techniques by lectures, exhibitions, meetings, and discussions of dental subjects of interest to technicians.

To form a library and to establish a journal for the publication of information, dental articles, and news of interest to members.

A full programme of monthly lectures by eminent dental surgeons and expert technicians covering all branches of the Craft has been organized each year and these have been well supported and appreciated by all sections of the Profession.

A library covering a wide range of dental text-books has been made available to members.

A NEW ANÆSTHETIC APPARATUS

THE Devanæst anæsthetic apparatus is a machine designed for portable anæsthesia and analgesia. This new machine is a modification of the Portanæst, less the cylinder yokes and Adam reducing valves.

The dial gradations are clear and well spaced, with an accurately controlled mixture and smooth pressure, but the lever arms on the controls somewhat interfere with vision. The machine may be attached by its socketed base to a pedestal or wall-bracket extension arm. The Adams valves are a cylinder fitting and the rubber gas supply lines, at 5 lb. pressure, are attached by quick-release Schrader sockets to the machine.

The machine could be easily adapted to an instrument trolley and the mixture by-passed through a trilene bottle fastened nearby.

Summing up, the Devanæst is a small, compact, portable, and neat dental anæsthetic apparatus that appears to offer quite considerable scope in the field of dental anæsthesia.

PARLIAMENTARY NEWS

Dentists' Superannuation

References to dentists' superannuation were made in the House of Commons on Wednesday night (June 25) by Mr. A. Blenkinsop (Lab., Newcastle upon Tyne, E.) on the motion that the Draft National Health Service (Superannuation) (Amendment) (No. 2) Regulations, 1952, be approved.

Drawing attention to the regulations, he recalled that a year ago he moved similar regulations. He pointed out that while it might be desirable that the House should maintain the superannuation provisions for dentists by including in their remuneration such revenue as they might receive from patients, in view of charges imposed last year, it did not necessarily follow from that that Members should agree automatically to this provision now put forward.

Mr. Blenkinsop said that a point of principle was involved. We were approaching a point, if it had not already been reached, where the bulk of the revenue which dentists received would be not from the State, but from patients.

He asked whether the House was satisfied in continuing with provisions for the maintenance of superannuation regulations for dentists when the State was to some extent ceasing to be the employer.

Miss Pat Hornsby-Smith (Parliamentary Secretary to the Ministry of Health) replying, said the regulations which Mr. Blenkinsop moved a year ago were based entirely on the same principle as those now before the House. "I find it a little difficult to follow his somersault in that it was right and proper that payments by patients should be made part of the remuneration of dentists accepted for the purpose of superannuation when he moved the regulations last year, but now he thinks that they should be rejected."

Miss Hornsby-Smith said there was no change in principle. The fact that the charges were extended and covered a charge up to £1 could not alter the principle that they were part and parcel of the general remuneration of dentists and that as such, in all fairness they should be computed as part of their remuneration for the purposes of superannuation assessment.

Asked by Mr. Blenkinsop if dentists were to receive the whole of their remuneration from patients and the State ceased in effect to be their employer, if it would still be proposed to press the regulations, Miss Hornsby-Smith replied that it was a hypothetical question.

She said it was impossible to believe that the House seriously considered that dentists should be deprived of this particular part of their remuneration for the purpose of computing their superannuation assessments.

She hoped M.P.s would not be led astray by Mr. Blenkinsop into opposing a principle which they accepted last year, and bringing in what would be a very grave injustice to one section of practitioners in the service by depriving them of their normal rights under the National Health Service superannuation scheme.

The regulations were agreed to. (*W.*, *June* 25.)

National Health Charges

Speaking during the House of Commons debate on the health charges on Wednesday, July 2, Capt. J. Baird (Lab., Wolverhampton, N.E.) said the dental charges were already causing great hardship in the country and he believed the dental health of the general public was suffering.

Capt. Baird, himself a dentist, said there had already been a grave deterioration in the dental health of the people because of the charges imposed by this Government. "That result has come within one month", he added.

The British Dental Association had written to him, giving him statistics supplied by a leading dentist in an industrial area. Working with a partner, this dentist had up till June been examining between 250 and 300 new patients a month. "This month, he interviewed only 35 new patients, as a result of this Act. No one can argue that these charges are going to stop abuses, but I do say they are causing considerable hardship amongst a large element of the population."

Government members interrupted Capt. Baird several times with points of order designed to show that his speech went beyond the contents of the order under discussion.

Mr. Speaker, ruling that only administrative matters could be debated to-night, said: "The charges to be imposed are laid down in the Act itself, and not in the regulation. This is not an occasion on which we can re-fight the battle of the National Health Service".

When Government members continued to protest at his speech, Capt. Baird said: "Members opposite are trying to muzzle me altogether".

Capt. Baird said he had attacked dentists in the past. "I should have liked to-night to say something in their favour", he went on. "Because of the forms and charges authorized under this regulation, dentists in industrial areas to-day are in many cases earning lower incomes than before the war."

The dental forms issued by the Labour Government had 12 entries, he went on. "However, in the form issued under this regulation, the dentist has, for a simple operation, something like 46 entries to make. There is no justification for this complicated and unworkable machinery."

"The Minister, I hope, will see if something can be done to simplify it."

Dentists all over the country were cancelling appointments because of the charges, he said. The Government's imposition of these charges was having a graver effect than the Opposition had anticipated.

As a result of this regulation, the number of new estimates being submitted to the Dental Estimates Board had been considerably reduced. "This is happening all over the country, not only because of the charges, but on account of the complicated machinery. The work of the Dental Estimates Board must, as a result, be considerably diminished. Is anything being done to cut down the staff of this really bureaucratic organization?"

Mr. Baird said there was very considerable hardship in the industrial areas among dentists who were working half time. A considerable number of dentists were going to be made bankrupt as a result of these charges, and it would not solve the school dental problem.

He asked the Government to look at this again otherwise the dental health of the great masses of people, especially of the poorer people in the industrial areas, would suffer.

Mr. Ian Macleod, (Minister of Health) in replying to the debate, said, referring to regulation 1020, relating to charges for dental treatment, "As soon as possible we will have available to the dentists of this country a new and even more complicated form which will be E.C.17 re-revised."

When Mr. Baird interposed: "The reason why the much more complicated form was introduced last year was chiefly to meet the wishes of the Dental Estimates Board, who wanted to change their filing system", he replied: "I am very ready to do anything I can as to the way in which these forms can be simplified".

Mr. Macleod continuing said:—

As regards dental treatment, there had been an extremely substantial fall in the demand for dental treatment during the past month. It was also unquestionably true that a substantial proportion of the estimates submitted had been for those people who could claim exemption. It therefore followed that the policy of the Government, that those most in need should not go without, was being implemented. That figure had also to be taken with the increase in the school dentals service which on a full-time basis had gone in the last six months from 716 to 793, and the trend was continuing. Therefore, the teeth of those priority classes would be, in the future, better looked after than before.

When Mr. Baird asked whether the Minister would not agree that it meant that a larger proportion of the population would let their teeth rot, Mr. Macleod said that that remark was quite untrue and that Mr. Baird as a professional man must know that that particular observation was a very silly one.

In the Commons late on Wednesday night the motion to annul the National Health Service (Charges for Dental Treatment) Regulations 1952, was negatived without a division. (*W.*, *July* 2.)

NATIONAL HEALTH SERVICE NOTES

HOSPITAL DENTAL SERVICE

Salary Scale for General Dental Surgeons

1. The Minister has had under consideration the staffing requirements of the hospital dental service, and is of the opinion that a grade of whole-time general dental surgeon should be introduced. The day-to-day work of this officer would include the conservation of teeth by means of routine fillings, scaling and treatment of the gums, the extraction of teeth for the removal of oral sepsis or the relief of pain and the supply of dentures. The grade would, in the Minister's view, be of particular value in long-stay hospitals where a considerable amount of general dental work of the kind described requires to be undertaken for in-patients. There may also be scope for such appointments to be made in other hospitals, though it is not intended at this stage that short-stay patients should be provided with dental treatment beyond what is needed as part of their medical care or for relief of pain. It may sometimes be appropriate for such an officer to be appointed to serve two or more hospitals within a group. The Minister hopes that the introduction of this grade will serve to attract to, or retain in, the hospital service those who wish to make a career in that service without aspiring to senior staff status; in particular he thinks that some Dental Registrars who do not obtain Senior Registrar appointments may welcome the opportunity which it affords.

2. The minister has decided that the salary scale for the new grade shall be £900 × £30 to £960 × £40 to £1200 × £50 to £1500. When appointing a practitioner who has had more than four years' experience since registration, Boards and Committees may at their discretion grant him an increment for each additional year of experience up to a maximum of three.

3. The Minister has also decided that the maximum remuneration of a part-time general dental practitioner employed at hospitals under paragraph 11 of the Terms and Conditions of Service of Hospital Medical and Dental Staff (England and Wales) shall in future be £900, instead of £1350, per annum; subject to this the rate of £150 per weekly half-day remains unchanged. Any contracts entered into before the receipt of this memorandum are not affected by the reduction of the maximum.

4. The Minister of Health has approved the provisions of paragraphs 2 and 3 above as approved remuneration and conditions of service under Regulation 4 of the National Health Service (Remuneration and Conditions of Service) Regulations, 1951 (S.I. 1951 No. 1373).

5. The expenditure incurred in making appointments of hospital general dental surgeons must, of course, be met from the Board's or Committee's approved estimates.

CENTRAL HEALTH SERVICES COUNCIL AND STANDING ADVISORY COMMITTEES

Membership

THE Minister of Health has made the following appointments to the Central Health Services Council and Standing Advisory Committees for the period ending March 31, 1955:—

Central Health Services Council.—

Dental Practitioners:—

Frederick John Ballard, Esq. (*London*).

Standing Dental Advisory Committee.—

Frederick John Ballard, Esq. (*London*).

Thomas Hindle, Esq. (*Blackburn*).

Professor Martin Amsler Rushton, M.D., F.D.S.R.C.S. (*London*).

Clement Spiridion, Esq., L.D.S. R.C.S. (*Cardiff*).

Professor Frank Clare Wilkinson, M.D., D.D.Sc., M.Sc., B.D.S., F.D.S. R.C.S. (*London*).

REMOVAL OF NAME

The name of John Hargreaves, 274, Main Road, Sheffield, 9, has been ordered to be removed from any dental list in which it is now included. The name may not be included in future in any dental list unless the Tribunal or the Minister so directs.

NEW DENTAL HOSPITAL, JOHANNESBURG

PROFESSOR J. C. MIDDLETON SHAW, Head of the Department of Dentistry at the Witwatersrand University, Johannesburg, declared recently that the University's new Oral and Dental Hospital will be opened very soon. Planning of this hospital started in 1948 and building work in 1950. The cost to date has been in the neighbourhood of £265,000, but the final figures would be more like £500,000. The official opening of this magnificent hospital, that will render such great service to the health of South Africa, will be made by the Governor-General, the Hon. E. G. Jansen, on September 10.

The design and layout of the new building was planned and conceived by Professor Middleton Shaw, who studied the latest overseas methods and equipment so that they could be incorporated in the new hospital.

A striking feature of the new hospital is the conservation room with 45 units in it. By the side of each dental chair is a telephone and loudspeaker, through which the 'controller', sitting in a room with a wide window overlooking the rows of units, can keep a constant flow of patients to vacant chairs and supplies of drugs to the dentists.

The total number of dentist's chairs in the building will amount to 120, while the provision is also being made for a hospital section where 25 patients can be treated.

When the first patient will actually sit in one of the dentist's chairs is uncertain, because there is still a lot of unpacking and fixing of equipment to do.

In addition to full-size X-ray apparatus, a modern-equipped operation theatre, various laboratories, lecture rooms, a library, museum, laundry and a large kitchen are housed in this modern building.

It is expected that at least thirty students will annually qualify as dentists and that the annual attendance of patients will amount to over 100,000.

SOCIETY NOTES

INSTITUTE OF BRITISH SURGICAL TECHNICIANS (INC.)

A combined meeting of surgical and dental members of the Institute of British Surgical Technicians was held at Caxton Hall, London, on June 10, under the Chairmanship of Mr. G. Maurice Down, F.I.B.S.T., when Dr. S. A. Leader, L.D.S. R.C.S., M.R.C.S., L.R.C.P., gave a lecture and demonstration on "Recent Advances in Acrylics with particular regard to Fibre-glass Laminates".

Commencing with the common factor of the skill and dexterity exercised by the craftsmen in both sections, Dr. Leader divided his subject between the production of homogeneous masses of acrylic and the use of acrylic laminated with fibre-glass, cotton or other fabric, the former being mainly of interest from the dental aspect and the latter concerning both dental and surgical technicians.

After describing methods of moulding acrylics, with particular regard to the cold-curing technique designed to avoid distortion on cooling, the lecturer dealt with the uses of poly-vinyl chloride for external surgical prostheses, such as artificial ears and noses, tubes for anæsthesia, surgical drainage and replacement of internal organs after radical operations for cancer, and the application of polythylene in the production of oral screens. A clear exposition of the method of producing acrylic surgical splints was followed by detailed instructions on the application of fibre-glass laminates in denture construction. The address concluded with a practical demonstration of the preparation of laminated dentures and surgical splints.

During the lecture specimens were passed round for inspection and it was evident that much interest had been aroused from the questions which came from the audience and the number who gathered round the table later for a further examination of the exhibits.

VOLUNTARY CO-ORDINATION IN PRODUCTION OF DENTAL FILMS

The Advisory Committee on Visual Education in Dentistry offer reciprocal co-operation in the production of dental films.

1. If at the inception of a plan to make a new dental film the advisory committee is informed, the Committee will do its best to inform the intending producer of existing films on the subject, and to arrange a viewing.

2. Where two or more organizations or persons more or less simultaneously disclose to the Committee the same or overlapping subjects for a dental film, the two parties concerned will be informed that others are in the field but names will not be disclosed. If, and only if, both parties wish for a consultation the Committee will arrange this, and will in the case of collaboration as in individual work assist with what technical advice is available.

3. Offers of co-operation should be made to the Secretary, Advisory Committee on Visual Education in Dentistry, c/o Dental Board of the United Kingdom, 44, Hallam Street, London, W.1, who will, as stated above, treat all communications as confidential.

MINISTER OPENS INTERNATIONAL DENTAL CONGRESS

OPENING the 11th International Dental Congress at the Royal Festival Hall, London, on Saturday, July 19, the Minister of Health (Mr. Iain Macleod) spoke of the measures which have been taken to raise the standard of dental fitness in Britain, including the great contribution made in the setting up and gradual development of the service for providing dental treatment by private practitioners in their own surgeries as an important part of the National Health Service.

"I should like", said the Minister, "to express my appreciation of the part which the profession itself, as represented by the British Dental Association, has played in working out the detailed arrangements for this immense undertaking. Practically all the dentists available in general practice, in point of fact 97 per cent of them, now take part in providing dental treatment under the Service, and thanks to their devotion and professional skill there is no doubt but that a great improvement in the dental health of the people of this country is being achieved."

Mr. Macleod also told the Congress that Britain was beginning again to build up her dental priority services for children and expectant and nursing mothers run by the local authorities, which suffered a loss of manpower on the first impact of the wider National Health Service. He spoke of the "striking reduction" in decay in the teeth of young children which has been said to have taken place in numerous communities in the United States by the making good of a mineral deficiency in the water supply, and thanked the American dental profession for the help they had given to the mission from the United Kingdom which recently visited the United States to study these results.

Britain had already adopted with considerable success a system of oral hygienists to scale and polish teeth and thus reduce the danger of diseases of the gums. These hygienists were now at work in hospitals and public authority clinics carrying out the oral hygiene of expectant and nursing mothers and other patients. More recently a mission had gone to New Zealand to study the arrangements in that country under which dental ancillaries concentrate on the treatment of the teeth of school children, and proposals which would allow an experiment in the light of conditions and needs in this country were at present before Parliament.

DENTAL HEALTH EXHIBITION OPENED

OPENING the Dental Health Exhibition at County Hall, London, on Saturday, July 19, Miss Pat Hornsby-Smith, Parliamentary Secretary to the Ministry of Health, said that while there was no certain specific cure for the dental ills which accompany civilization there were welcome signs that methods of reducing their incidence were on the way to being proven. There had been much research on the effect of diet upon teeth and in this field special attention was paid to the diet of the expectant and nursing mother which, together with the necessary fresh air, sun, and exercise, ensured that by proper observation a sound foundation was provided for babies' teeth. "I cannot over-emphasize," she said, "the importance of looking after children's teeth and the responsibility that rests upon all parents to educate their children in this vital field of preventive medicine. The initial responsibility lies with the individual and only too often the dentist does not come into the picture until the damage is done. By giving the right food to encourage the young jaws to work and so develop, by the natural removal of food debris from the teeth at the end of a meal by fruit and the like, by regular care and cleaning and particularly by regular professional inspection, we could ensure for future generations that they might possess their own dental machinery more or less intact for the prescribed three score years and ten.

"Our aim is to preserve the natural teeth and thus delay the necessity for dentures. To this end we in this country regard adolescent and expectant and nursing mothers as priority classes. Dental disease is not yet conquered: research continues. In one field the presence of minute particles of certain minerals in the water supply—trace elements as they are called—has been found to endow the enamel of the forming teeth with a decay-resisting property. Widespread research is at present going on in this new channel of prevention. Successful research and public co-operation in prevention mean a lot in this country, which has only one practising dentist to 4000 head of population, by comparison with 1 to 1800 of the United States, and which has had to find more than £130,000,000 to pay for dental treatment during the four years of our National Health Service.

"I hope that parents will come and see the exhibition, and I appeal to them to play their part in this all-important preventive treatment."

ABSTRACTS
from Other Journals

Modified Gingivectomy

This operation is defined as a form of treatment of periodontitis where all well-supported gingivæ are left in place but the unsupported thin tissues are removed. The advantage of this operation is said to be a minimum amount of gingival shrinkage, thus securing a reduced area of exposed root.

The technique is to remove all diseased tissue from the tooth aspect of the pocket instead of the more usual external approach. This may be done by instrumentation, chemicals, ionization, surgery, or electro-surgery, but the author states a preference for the electrosurgical method using either the electrocoagulator or the endothermic needle. His reasons for this preference are: (*a*) Shorter operating time; (*b*) Less bleeding; (*c*) Sterilization of the pocket; (*d*) Prevention of transient bacteriemia; (*e*) Removal of diseased tissue without loss of healthy supporting tissue.

The electrode is inserted to the depth of the pocket and a short blast of current passed through it, this process being repeated until all parts of the pocket are desiccated, when using the electrocoagulator. In the case of the monopolar electrode the needle is again inserted to the depth of the pocket, the current passed and the needle moved rapidly around the teeth. The teeth are then scaled thoroughly and the root surfaces polished. The gums are pressed against the teeth and a pack of soft consistency applied; this pack may be protected by covering with adhesive tinfoil and should be left in place for five days to a week.

It is claimed that by this method periodontal pockets can be entirely eliminated without removing or resecting well-supported gingival tissue. No comment is made about the resulting gingival architecture and no clinical photographs of cases treated are included. The radiographs included as support for the claim that bone is regenerated do not uniformly appear to provide this evidence.—WOLFSOHN, M. D. (1951), *J. Periodont.*, **22**, 212.

The Maintenance Phase of Periodontal Therapy

Attention is drawn to the fact that very little stress has hitherto been laid on the fundamental importance of the maintenance phase in treatment of periodontal lesions. The author recommends that no opportunity should be lost to stress the need for home care even during the phase of active treatment, that the patient should receive adequate instruction in methods of home care, and that a follow-up letter containing advice about this should be sent to the patient one week after the completion of the initial course of treatment.

The place of the dental hygienist is discussed and the danger of using the hygienist for subsequent treatment without supervision by the dentist is noted. Different methods of reducing sensitivity are enumerated.—CHACE, R. (1951), *J. Periodont.*, **22**, 234.

Simple Treatment of Hypersensitive Cervical Dentine

A patient with hypersensitive cervical dentine usually complains of painful teeth which are sensitive to sweets, cold, touch, and salts, and the pain is usually felt on imperfect cemento-enamel junctions which have become denuded of protective gingival tissue by passive or active tooth eruption.

Hypersensitive dentine is also found in other cervical areas of teeth, and these most frequently require operative treatment. The degree of pain is variable from discomfort to that of extreme severity and the pain usually increases on mastication, drinking, toothbrushing, and in the oral inhalation of cool air. Three fundamental theories and various combinations of elements of these regarding the dentinal conduction of pain can be summarized as follows:—

1. The odontoblast processes (Tomes' fibrils), being irritable, carry the stimulus from the tooth to the odontoblasts and thence to the nerve-plexus of the pulp.

2. Unmyelinated neural fibrils within the dentinal tubules conduct sensation to the para-odontoblastic nerve-plexus.

3. A change in the surface tension at the free surface apertures of the dentinal canals causes a disturbance of the hydrostatic equilibrium within the canals which registers on the sub-odontoblastic nerve-plexus, causing a painful reaction.

An ideal treatment for sensitive dentine is one which has the following qualities: (*a*) Ease of administration; (*b*) Minimum number of dental appointments; (*c*) Requires shortest possible time per application; (*d*) Presents no danger to teeth, soft tissues, or system; (*e*) Causes no discoloration of teeth or soft tissues; (*f*) Gives the greatest assurance of success in the total eradication of pain and discomfort; (*g*) Results in the greatest permanence of relief; (*h*) Minimum of expense.

Several of the more widely used methods employed at the present time are as follows: (*a*) Formaldehyde and paraformaldehyde; (*b*) Silver nitrate; (*c*) Zinc chloride; (*d*) Anhydrous sodium carbonate; (*e*) Sodium fluoride; (*f*) Electrocoagulation.

One or more of the following disadvantages were presented in the use of these remedies: (*a*) Time consuming; (*b*) Prolonged treatment; (*c*) Incomplete success; (*d*) High cost due to number of applications and the time involved for each; (*e*) Danger to the soft tissues; (*f*) Staining; (*g*) Painful application.

The author suggests the following treatment, using glycerin as the drug:—

Instruct the patient to apply pure glycerin on all surfaces of the teeth, once a day, directly after brushing, with the toothbrush, which is wet with glycerin, the brush serving as an applicator and not for brushing the drug into the teeth. Glycerin is not washed off the teeth, but is allowed to remain so that contact with the afflicted areas is maintained for a time, before the oral secretions remove it.

With the first two or three treatments, painful reactions may be involved in the sensitive areas, but after that, pain gradually subsides, and within a fortnight no pain is complained of.—COLANERI, J. (1952), *Oral Surg., oral Med., oral Path.*, **5**, March.

Ranula

Ranula is a cystic swelling on the floor of the mouth, the cause being the obstruction of the ducts of the sublingual gland. It may also be due to myxomatous degeneration of a mucous gland in the floor of the mouth. Ranulæ are neither common, nor do they endanger the general health of the patient. Clinically the swelling is slow-growing and unilateral, gradually increasing in size, and may interfere with speech and mastication. Rarely is there any pain or tenderness.

Ranulæ can be divided into two groups; the simple or sublingual type, and the deep-plunging suprahyoid type.

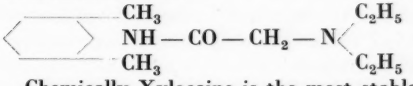
Histopathology.—A fibrous cyst lined with epithelium which is derived from the cyst duct with perhaps marked inflammatory reaction in the membrane with enlarged blood-vessels and extensive infiltration by polynuclear and mononuclear cells. The fluid content is usually composed of mucus, fibrin, lymphocytes, and macrophages.

Differential Diagnosis.—A ranula may closely resemble: A dermoid cyst; a mucous cyst; a mixed tumour; a cyst of Wharton's duct; or a lipoma.

Treatment.—Complete enucleation is the method of choice and should, whenever indicated, be done under general anæsthesia. However, success can be obtained both with complete excision and marsupialization.—NATHANSON, N. R. (1952), *Oral Surg., oral Med., oral Path.*, **5**, March.

Xylocaine

After 3000 dental anæsthesias using Xylocained Hydrochloride, Dubin and Foner have found this drug to be the most effective, most stable, and the least toxic of the local anæsthetic agents thus far developed for dental use. Xylocaine is an anilide with the following structural formula:—



Chemically Xylocaine is the most stable of all known anæsthetics. It is not decomposed by boiling or by strongly acid or alkaline solutions. In recommended doses it does not

plasmolize or hæmolize and is of *p*H 7 without adrenaline. Xylocaine is three times as active as Novocaine. Using a solution of Xylocaine in a concentration of 2 per cent supplied in carpules with epinephrine 1:100,000, the following observations were made:—(*a*) Rapidity of induction; (*b*) Greater depth of anæsthesia; (*c*) Longer duration of anæsthesia; (*d*) Hardly any toxicity; (*e*) No significant effect on blood-pressure or pulse-rate; (*f*) No Xylocaine dermatitis; (*g*) Does not inhibit effect of chemotherapeutic agents.

Since the duration of local anæsthetic is proportional to the quantity of the anæsthetic injected, by reducing the dose this objection has been overcome to some extent. In children, 1 c.c. of Xylocaine can produce good anæsthesia by successful infiltration. Xylocaine can be used without epinephrine, and therefore proves a valuable drug in handling patients with hypertension, diabetes, and arteriosclerosis.

This report, together with previously reported observations, is sufficient to recommend Xylocaine as the most rapid, profound, and safe local anæsthetic agent thus far developed and clinically tested.—DUBIN, N. L., and FONER, L. M. (1952), *Oral Surg., oral Med., oral Path.*, **5**, April.

Impacted Posterior Fracture-dislocation of the Temporomandibular Joint

Posterior dislocation of the mandible is rare because of several anatomical features, and can only occur in the elderly. The anatomical reasons for this are the small glenoid process of the squamous temporal bone, the size of the temporomandibular ligament, the pad of fat, the variation of prolongation of the parotid gland filling the space between the condyle and the tympanic plate, and the obtuse angle of the mandible, and therefore would militate against posterior dislocation, and seem to explain why these lesions are so unusual. The following interesting case is therefore recorded:—

A 69-year-old workman was brought to the hospital following an automobile accident. He complained of deafness and pain in the region of the right ear, and expressed the fear that he may have swallowed his lower denture. He had been riding in the rear seat of the car and his chin had struck the back of the front seat. He had found his upper denture on the floor of the car, but his lower denture was found later undamaged. The patient was unable to open his mouth and the immobile lower jaw deviated to the right. Any attempt at movement caused pain in the region of the right ear. Blood flowed from the right external auditory meatus and the canal contained gross blood and fragments of cartilage, and there was marked impairment on that side. A reduction under general anæsthesia was attempted but proved unsuccessful. X-ray films showed the condyle of the mandible to be situated in the external auditory canal and there was no fracture of the mandible. Two days later, under general anæsthesia, the reduction was accomplished and penicillin administered. The meatus was cleared of blood and fragments of cartilage and bone. The mandibular condyle could then be seen within the auditory canal filling its lumen. Reduction was affected quickly by pulling forward on the right side of the jaw with the head held fixed and at the same time using a blunt periosteum elevator as a lever between the condyle and the posterior wall of the canal. Following the operation, the deformity of the jaw disappeared and the pain above the right ear was relieved. Wearing his dentures, the patient could use his jaw for mastication.

Post-operative radiographs showed the mandibular condyle in its normal position in its fossa. Penicillin and sulphadiazine was insufflated into the aural canal, and penicillin was administered parenterally. Healing of the auditory canal proceeded satisfactorily and hearing was restored to normal. A rubber dilator was used to prevent stenosis. There remained an area of scarring visible on the anterior-superior aspect of the canal.—PLEWES, B., and MIGHTON, A. K. (1952), *Brit. J. Surg.*, May, 522.

Acute Monocytic Leukæmia with Special Reference to the Oral Condition

Three cases of monocytic leukæmia are presented, all of which terminated fatally. Attention is drawn to the fact that the classical signs of this disease, namely "ulcerative and necrotic lesions of the oral mucosa with intense swelling of the gingivæ and the tendency to slow the more or less continuous hæmorrhage", were not present in these cases. In one case no gingival symptoms were present at any time; in another they were present only slightly before death; whilst in the other, although there was enlargement of the gingivæ, no undue hæmorrhage was observed, even in spite of a gingivectomy and biopsy examination.

The author suggests that the oral lesions appearing in cases of leukæmia may only present an exaggerated picture of those which would in any case be present, and draws an analogy to the effect of epanutin on gingival hyperplasia.—STOY, P. J. (1952), *Brit. dent. J.*, **92**, 144.

BOOK REVIEWS

THE BRITISH DENTAL ANNUAL, 1952. Edited by EVELYN SPRAWSON, M.C., D.Sc., F.D.S., M.R.C.S., L.R.C.P., Consulting Dental Surgeon to the London Hospital; etc. $4\frac{3}{4} \times 7\frac{1}{4}$ in. Pp. 281 + viii, with 5 illustrations. 1952. London: Butterworth & Co. (Publishers) Ltd. 35s.

THIS book is intended as an aid to the practising dental surgeon to keep up to date with modern developments and trends in dentistry. It is divided into three parts. Part I contains a number of original articles by various contributors on the several aspects of dentistry; these are by authors who have specialized knowledge of their particular subjects and are of very varying standards. The articles are with one exception unillustrated, which makes the understanding of the descriptions of prosthetic and orthodontic appliances and operative dental surgery procedures difficult, if not impossible, to any but specialists in those particular fields. Simple, clear illustrations to these articles would add very considerably to their value.

Part II is an information section, giving particulars of the Dental Schools in the Commonwealth and the requirements of the various examining bodies. There is a good deal of useful information here, but the whole section might have been better treated as an Appendix.

Part III consists of abstracts from the world literature and is most valuable to the busy man who is quite unable to find time to read all the original articles. This section could well be expanded to advantage.

There is undeniably a place for this type of publication in the dental literature of this country. It is unfortunate, therefore, that this new Annual does not yet altogether meet the need. It is to be hoped that subsequent editions will do so. D. F. S.

Have you a Colleague

WHO IS NOT A SUBSCRIBER TO THE "DENTAL PRACTITIONER"?

IF so, we should have pleasure in sending him a complimentary copy of the current issue if *you* will kindly send us his name and address.

DENTAL PRACTITIONERS' FORMULARY, 1952. For Use in the National Health Service. $4\frac{1}{8} \times 6\frac{1}{2}$ in. Pp. 28. 1952. London: Pharmaceutical Press (jointly with the British Medical Association). 1s. 6d.; Interleaved 3s.

THIS little booklet, which has now been circulated by Executive Councils to dental practitioners working in the National Health Service has been prepared by a joint formulary committee representing the medical and pharmaceutical professions.

Undoubtedly, it will be of assistance to practitioners in that in one small book they can readily check up on those drugs which they are permitted to prescribe under the Service. Notes are included on methods of prescribing and Schedule IV poisons.

It is, however, sad to note that in a list of some thirty persons, not one dental practitioner is included. Such lack of co-operation may perhaps be one reason for the state of affairs which makes it impossible for a dental practitioner to prescribe such obvious things as penicillin chewing-gum for his patients in the Health Service. This is 1952, and a Bill is before Parliament requesting autonomy for our profession, yet we are given a Formularly devised by purely medically and pharmaceutically qualified persons!

There may, of course, be another answer to this state of affairs. Where has been the so-called organized dental profession that it has not, during the life of the National Health Service, prepared a suitable formularly for its members. If we fail to help ourselves, perhaps we should not lightly blame others who step in to try and fill the bill. J. E. S.

S.I.M.A. Supplement to
The DENTAL PRACTITIONER *Vol.* II, *No.* 12

OFFICIAL SUPPLEMENT OF THE

SURGICAL INSTRUMENT MANUFACTURERS' ASSOCIATION (INC.)

DENTAL LABORATORIES SECTION

Chairman: E. G. EMMETT, F.I.B.S.T.
Administrative Offices: 6, HOLBORN VIADUCT, LONDON, E.C.1
Telephone: CITY 6031

Vol. II, No. 5 August, 1952

Editorial Committee: MR. D. M. BEAUCHAMP; MR. H. J. POTTER, F.I.B.S.T.

EDITORIAL

THE use of demonstration meetings to encourage our members and attract those of the future, and enable them all to increase their technical knowledge, is still neglected.

In such manual work as ours, and in the absence of skill in verbal description, the dissemination of information may only reliably be made by personal contact with actual cases. Some of our members have already taken much trouble to prepare their own display and teaching specimens, and are always ready to tell all they know.

"Nobody can teach me anything about dental mechanics, and anyway I'm not giving my secrets away" was spoken by one asked to take an active part in a table demonstration meeting. Poor man! If nobody could teach him, he could have no secrets to impart: he had not yet learned how little he knew.

For every secret given away we first surprisedly find it already shared, and then receive two or three more from our confidants. Gone are the days of regarding with suspicion a competitor's visit for fear he finds how our tricks are done; to our amazement he has practised them longer than we have, and can tell us a thing or two.

We welcome him now, hear of his difficulties with sympathy, and discuss solutions together. It is interesting that the owner of one of our largest laboratories is willing to show visitors round at any time.

Teaching each other we learn still more, our true self-confidence is increased, our appetite for the work is whetted, and the keener we are on the job the better the job gets done, with ultimate benefit to the patient public we serve through the dental surgeon.

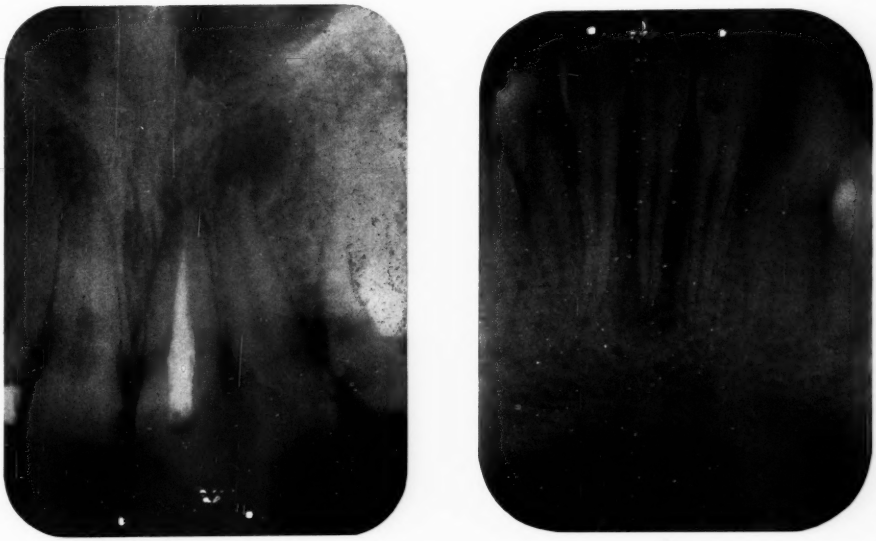
NEWS FROM HEAD OFFICE

Grading of Dental Technicians.—The grading classifications in the N.J.C. booklet have recently been scrutinized by the main committee and there was a feeling that if Grade 1 is to remain in its present form there should be some satisfactory method of determining whether the technician is capable of performing the advanced work called for under Grade 1 where there is a shortage of such work in the laboratory. There was also substantial support for the view that a technician should be graded according to the work he is actually carrying out in the laboratory. The matter will be further considered by a sub-committee of the N.J.C. which is dealing with the revision of the N.J.C. booklet.

Wages during Sickness.—The views of the trade unions on the counter-proposals in regard

RADIOGRAPHIC CHART No. 3. (FOR YOUR PATIENT'S INSTRUCTION)

RADIOGRAPHIC EVIDENCE OF APICAL INFECTION



A B

A, Darkened area over apex of right upper lateral shows infection and death of the tooth.
B, Apical infection of a lower central incisor.

Both these teeth were successfully treated by root treatment and root filling.

to wages during sickness submitted by the employers' side of the N.J.C. are now awaited, but we take this opportunity of reminding members that the existing conditions may involve employers in very heavy commitments should any of their technicians who have been in their employ for some time fall sick for a considerable period. We have already circulated details of a group insurance scheme to cover this risk, and some arrangements of this kind should be seriously considered by all laboratory owners to protect themselves against contingencies which may arise. The association will be pleased to furnish particulars on application.

The Dentists Bill.—There appears to be little likelihood of the introduction of the Dentists Bill into the House of Commons before the Autumn Session, but in the meantime our case is being re-formulated for a further approach to the Parliamentary Medical Committee at an opportune time, through the local Branches of S.I.M.A.

Inspection of Vulcanizers.—Members are advised that vulcanizers which have been out of commission for some time should be re-tested before being used again, even if the statutory period of 14 months has not elapsed, otherwise in the event of an accident, they may find themselves exposed to the risk of a penalty under common law.

Fixation of Prices.—Mr. Emmett and Mr. Davis recently had a further interview with officials of the Ministry of Health when our case for a fixation of prices, a means of raising the standard of materials and craftsmanship and eliminating cut prices and inferior work, was developed. This opportunity of clarifying the position and acquainting the Ministry with the facts has, we feel, achieved a useful purpose and the matter will be further pursued as opportunity occurs.

Adoption of South-west England Laboratory Group as S.I.M.A. Branch.—At the last meeting of the main committee official recognition was given to the South-western Dental Laboratories Society formed under the chairmanship of Mr. C. A. Bricknell, of Exeter. Mr. W. H. Horn, of Exmouth, is honorary secretary, and Mr. L. H. Tilbury, of Tavistock, is honorary treasurer. We cordially welcome this latest strengthening of S.I.M.A., and trust the association between these distant members and the main body will be mutually beneficial.

New Members.—The following laboratories have been recommended for election as members of S.I.M.A.:—

Full Member

S. B. Taylor, 43 Weymouth Street, London, W.1.

Affiliated Member

P. A. Hewson, 15 Church Road, Higher Tranmere, Birkenhead.

Changes of Address.—The following new addresses should be noted:—

R. W. M. Peake, Peterholme, Aynhoe, nr. Banbury, Oxon.

Neville's Dental Laboratory, 124 George Street, Croydon, Surrey.

FOREIGN NEWS

FRANCE.—Contact has been made with M. Duvaudie, the President of the Syndicat de la Prothèse Dentaire de L'Ile de France, a laboratory association serving the Paris area and corresponding to our London Regional Branch.

M. Duvaudie is also Vice-president of the Fédération Nationale de la Prothèse Dentaire, and from this latter association we have received an invitation to send a representative to attend their sixth annual congress to be held at Nice, Côte d'Azur, August 28–30.

They have expressed a desire to hear about our views on: (1) professional organization and the problem of apprentices; (2) the creation of an International Bureau of Dental Laboratories and the functions and use of such a body.

It is true that much interchange of view may be even better done by correspondence,

but the encouragement of our French friends by the presence of an Englishman who has spared the time and taken the trouble to attend and personally convey our good wishes, will no doubt challenge them to respond to a similar invitation from us in the future.

The British Isles is an important European geographical centre; we have been pleased to adopt many continental men; English is spoken on the Continent as a second language more than any other—we must therefore ensure that the founding of such a society is supported and influenced by Englishmen.

GREECE.—In Greece there are almost five hundred dental technicians; about three hundred work in their own laboratories, one hundred are employed directly by dentists, and one hundred are apprentices.

In spite of the occupation, losses by execution of colleagues, and the distress of famine, the laboratory men have had the grit to organize the Association of Master Workmen of Prosthetic Dentistry of Athens.

Very few laboratory owners employ any technicians, there is no technical school for dental prosthetics, and the industry is not protected in any way. This makes it difficult for the skilled technician, because anyone is free to set up a dental laboratory, and no one is obliged to respect the price list established by the association.

A programme is latent of securing protection by law, regulating the speed of numerical growth of laboratories, improving technical quality of members, creating a diploma for completed apprenticeship, and making this obligatory before permission is granted to operate a dental laboratory.

So Greece, with her recent background of difficulties such as we in England have never known, displays a determination which we would do well to emulate.

AFRICA.—Many of those engaged in serving the dental profession either by direct employ or in their own laboratories, and especially his companions of the war days in the Royal Air Force, value the acquaintance of Mr. James V. Pammenter.

Last August, with Mrs. Pammenter and his five sons, Mr. Pammenter emigrated to Salisbury, a town in Southern Rhodesia. There seems to be more work than he can comfortably cope with, and he hopes to spread out a bit when he is able to procure more help.

In Salisbury there are three independent laboratories, and five or six technicians employed by dental surgeons.

Mr. Pammenter always displayed great enthusiasm for S.I.M.A. activities, and frequently made the overall 206 miles journey from Bournemouth to London to attend technical and business meetings. It is to be expected that he would attempt something of the sort, and the Dental Technicians' Guild of Southern Rhodesia is now formed. He is very interested in all he reads of dental technology in the English journals, and wants fuller reports of the various lectures so as to get them discussed at the meetings.

"When I arrived in Salisbury, I was a bit disappointed in the country: everything was so dry and brown, but after the first rains in November, all turned green quickly. Salisbury, S. R., cannot compare with Bournemouth as a town, nor is the country anywhere near as pretty as Dorset.

"Food is more expensive than at home, yet, on the whole, my wife tells me, the cost of living is no more; clothes are cheaper, no coal is needed, and electricity bills are less. Taxes are very low. House rentals are much higher, and property about twice the price of the English equivalent. The only slip-up in my calculations was the cost of buying a house, otherwise things have worked out very much as planned."

We admire our friend and his wife for their courage, and wish them well. To our colleagues at home we say, "Don't rush, the distant grass is not always green."

CAN YOU BELIEVE IT?

During a recent shortage of plaster, a dental nurse had a bright idea. She decided to cast her models in impression plaster. The dentist, having set up the denture, sent it to a laboratory for completion, with the result that when the denture was dewaxed, the model was also washed away!

WROUGHT-WIRE CLASPS

AT a recent S.I.M.A. table demonstration meeting, Mr. L. Heydermann showed and talked about "Wrought-wire Clasps".

Mr. Heydermann served his apprenticeship in a private practice on the Continent forty years ago, gaining experience in metal work of all types. Before coming to England he ran his own laboratory to the profession for nearly twenty years. In this country he worked with several dental surgeons, specializing in metal work. After the war he became a naturalized British subject, and is now a partner of H. & M. Dental Laboratories.

Mr. Heydermann has shown his interest in the educational side of the craft by his articles and lectures on various dental subjects.

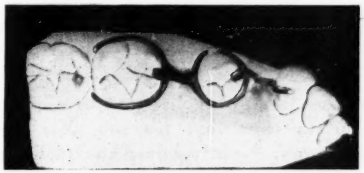


Fig. 1.—Half-round wire clasps and rests.

At the demonstration meeting Mr. Heydermann showed thirty carefully prepared models, carrying some fifty different clasps. All clasps were constructed from wrought wire, showing that with a certain amount of skill they could all be made in this way. The specimens included Gillett clasps, all the Roach bar clasps, single, split, and multiple cribs, the double wire loop, Roach continuous grip clasp, the back-action and reverse back-action clasp, and various modifications. Also included were different stress-breaking attachments and the popular Kennedy lower double bar with the continuous clasp of wire fitting eight teeth and soldered to platinum foil.

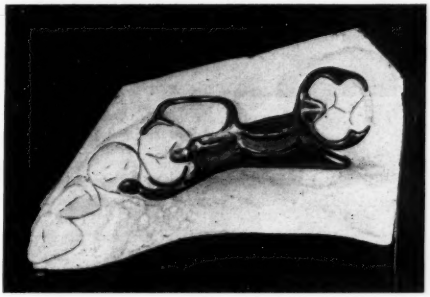


Fig. 2.—Cast removable bridge with wrought Roach clasps.

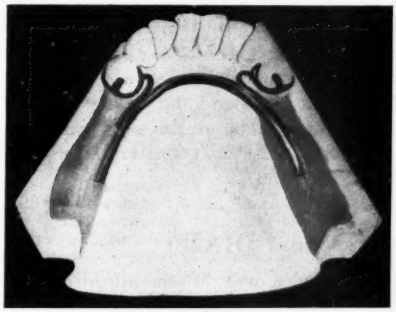


Fig. 3.—Back-action clasps.

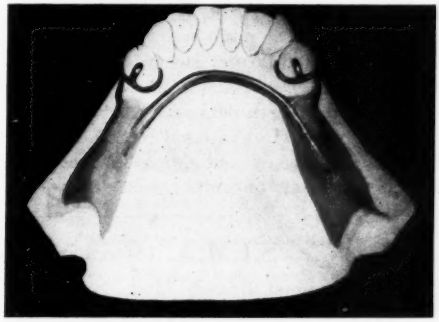


Fig. 4.—Reverse back-action clasps.

Mr. Heydermann pointed out that of the various clasps, although each had its advantages, those made of round wire were first choice, followed by half-round and then plate clasps. For round-wire clasps he uses

A or B gauge according to the nature of the teeth to be clasped; for the half-round 6 or

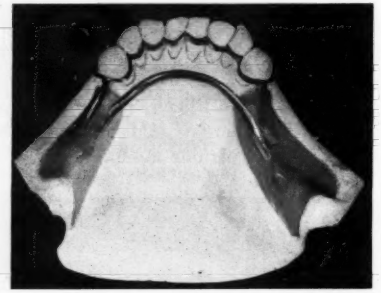


Fig. 5.—Continuous clasp of wire soldered to platinum foil.

7 gauge; and for the plate 7 gauge. For good wrought-wire clasps elasticity is important, and he chooses a wire amenable to heat treatment, one that becomes very soft when annealed and which may be restored to its original hardness and resiliency with correct treatment. He considers orthodontic wires such as Ortho F and QA to be suitable for this work. Some attention must be paid to the pliers used.

Mr. Heydermann would like to express his thanks to a young technician trained by him, Mr. L. A. Clark, who helped in the construction of the specimens which made the demonstration so successful.

At the time of going to press, we are pleased to hear that his son, Mr. Dennis Heydermann, recently gained the qualification of L.D.S. R.C.S. We take this opportunity of offering congratulatory good wishes to both.

NEWS FROM THE BRANCHES

London Regional Branch.—A general meeting of the Branch took place on Thursday, June 5, at 6, Holborn Viaduct, London, E.C.1.

Following the minutes of the previous meeting and the Branch Representative's (H. F. Lucas) report, the meeting began discussion of the report and of the other items on the agenda. The main trend of discussion was of a financial nature, inasmuch as it had relation to the endeavours of the Association to obtain an understanding in regard to the quality and prices for National Health Service work, to employers' obligations when employees are sick, to subscription rates to S.I.M.A., and of insurance to cover certain liabilities in connexion with sick pay.

It was also put to the meeting that considerably improved support, both in subscriptions to, and in material for, the DENTAL PRACTITIONER is an urgent necessity.

Mr. C. M. Booth, organizer of the *One-day Summer Conference* arranged for July 19 at the Holborn Restaurant, outlined his plans for the occasion. We anticipate the event with great pleasure as Mr. R. J. Rothstein, President of the National Association of Dental Laboratories of America, will be our guest. The next meeting is provisionally fixed for Oct. 2.

S.I.M.A. (DENTAL LABORATORIES SECTION) DIARY

London Regional Branch (*Hon. Secretary*: Mr. R. Foale, F.I.B.S.T., 899, Finchley Road, N.W.11).—Next meeting Oct. 2, at 6, Holborn Viaduct, London, E.C.1.

Croydon Branch (*Hon. Secretary*: H. J. Nowers, 86, Croydon Road).—Next meeting Sept. 19, at Six Bells, Handcroft Road, 7.30 p.m. Table demonstration meeting, Oct. 24, 7.30 p.m., Norbury Library.

South Wales and Monmouthshire Branch (*Hon. Secretary*: Mr. R. Mather, F.I.B.S.T., 16, Clodien Avenue, Gabalfa, Cardiff).—Next meeting Sept. 4, at the Royal Hotel, Cardiff.

North-western Branch (*Hon. Secretary*: Mr. C. Bradshaw, 608, Bolton Road, Pendlebury, Lancs.).—Next meeting August 17, at the Ashford Hotel, Settle, Yorkshire. Lunch at 1 p.m.

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